

In the Claims:

Please amend claims 1, 2, 15, 19-21, 25, 36, 39, 48-49, 52, 55, and 57
without prejudice as follows:

1. (Currently Amended) A client comprising:
a processor;
a memory;
one or more output devices;
a content player stored in the memory and executed on the processor to
play content in the one or more output devices;
an operating system stored in the memory and executed on the processor,
the operating system having processing tools for processing the content in support
of the content player; and
a scrambling system to scramble the content before the content is processed
by the processing tools of the operation system and to unscramble the content after
the content is processed by the processing tools of the operation system,
wherein the processing tools modify the scrambled content.

2. (Currently Amended) A client as recited in claim 1, wherein
the processing tools ~~comprises~~ comprise a filter graph with one or more filters that
process the content.

1 3. (Original) A client as recited in claim 1, wherein the content
2 player receives the content in an encrypted and compressed format, the content
3 player decrypting and decompressing the content.

4
5 4. (Original) A client as recited in claim 1, wherein the scrambling
6 system adds noise to the content.

7
8 5. (Original) A client as recited in claim 1, wherein the scrambling
9 system XORs at least a subset of content with a random stream of bits.

10
11 6. (Original) A client as recited in claim 1, wherein the scrambling
12 system transforms the content using one of time-domain or frequency-domain
13 scrambling.

14
15 7. (Original) A client as recited in claim 1, wherein the operating
16 system has at least one driver for the output devices and the scrambling system
17 comprises:

18 a scrambler resident at the content player to scramble the content to
19 produce scrambled content; and

20 a descrambler resident at the driver to unscramble the scrambled content to
21 recover the content.

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RESPONSE TO OFFICE ACTION DATED FEBRUARY 9, 2004

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1 8. (Original) A client as recited in claim 1, wherein the scrambling
2 system adds a random signal to the content to produce scrambled content and
3 subtracts the random signal from the scrambled content to recover the content.

4
5 9. (Original) A client as recited in claim 1, wherein the scrambling
6 system adds a periodic sync tone and a random signal to the content to produce
7 scrambled content and subtracts the sync tone and the random signal from the
8 scrambled content to recover the content.

9
10 10. (Original) A client as recited in claim 1, wherein the scrambling
11 system utilizes at least one key to scramble the content.

12
13 11. (Original) A client as recited in claim 1, wherein the scrambling
14 system comprises:

15 a tone generator to create periodic sets of tone patterns having varying
16 amplitudes based on a first key;

17 a first random number generator to create a random signal based on the first
18 key and a second key;

19 an adder to add the tone patterns and the random signal to the content to
20 produce scrambled content;

21 a tone detector to detect the tone patterns in the scrambled content and
22 recover the first key from the varying amplitudes of the tone patterns;

23 a second random number generator to create a random signal based on the
24 recovered first key and the second key; and
25

1 a subtractor to subtract the tone patterns and the random signal from the
2 scrambled content to restore the content.

3
4 12. (Original) A client as recited in claim 11, wherein the second key
5 is passed via a channel separate from the scrambled content.

6
7 13. (Original) A client as recited in claim 11, wherein the second key
8 is exchanged between the first and second random number generator over a
9 secured path.

10
11 14. (Original) A client as recited in claim 1, wherein the scrambling
12 system is implemented in software stored in the memory and executed on the
13 processor.

14
15 /15. (Currently Amended) A content scrambler for scrambling
16 content, comprising:

17 a tone generator and modulator to create periodic sets of tone patterns and
18 to modulate amplitudes of the sets based on a first key;

19 a random number generator to create a random signal based on the first key
20 and a second key, wherein the second key is provided on a separate channel from
21 the first key; and

22 an adder to add the sets of tone patterns and the random signal to the
23 content to produce scrambled content.

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16. (Original) A content scrambler as recited in claim 15, wherein the tone generator and modulator modulates the amplitudes in a way that embeds the first key into the sets of tone patterns.

17. (Original) A content scrambler as recited in claim 15, wherein the tone generator and modulator produces the tone patterns with one of two amplitudes, wherein tone patterns with a first amplitude represent a first binary value and tone patterns with a second amplitude represent a second binary value, the first key being encoded into the sets of tone patterns as an aggregate of the first and second binary values.

18. (Original) A content scrambler as recited in claim 15, wherein the second key is encrypted for secure transportation to a descrambler.

19. (Currently Amended) A media player for playing multimedia content, comprising ~~[[the]]~~ a content scrambler of claim 15, comprising:

a tone generator and modulator to create periodic sets of tone patterns and to modulate amplitudes of the sets based on a first key;

a random number generator to create a random signal based on the first key and a second key, wherein the second key is provided on a separate channel from the first key; and

an adder to add the sets of tone patterns and the random signal to the content to produce scrambled content.

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20. (Currently Amended) An operating system comprising ~~[[the]]~~ a content scrambler ~~comprising: cf-claim 15.~~

a tone generator and modulator to create periodic sets of tone patterns and to modulate amplitudes of the sets based on a first key;

a random number generator to create a random signal based on the first key and a second key, wherein the second key is provided on a separate channel from the first key; and

an adder to add the sets of tone patterns and the random signal to the content to produce scrambled content.

21. (Currently Amended) A content descrambler for unscrambling scrambled content, comprising:

a tone detector and demodulator to detect periodic sets of tone patterns in the scrambled content and to demodulate amplitudes of the sets to recover a first key;

a random number generator to create a random signal based on the recovered first key and a second key, wherein the second key is provided on a separate channel from the first key; and

a subtractor to subtract the tone patterns and the random signal from the scrambled content to recover content.

1 22. (Original) A content descrambler as recited in claim 21, wherein
2 the tone patterns have one of two amplitudes so that tone patterns with a first
3 amplitude represent a first binary value and tone patterns with a second amplitude
4 represent a second binary value, the tone detector and demodulator using the first
5 and second binary values from the varying amplitudes to recover the first key.

6
7 23. (Original) A content descrambler as recited in claim 21, wherein
8 the second key is received separately from the scrambled content.

9
10 24. (Original) An operating system comprising the content scrambler
11 of claim 21.

12
13 25. (Currently Amended) A scrambling architecture for protecting
14 content distributed by a content provider over a network to a client, comprising:

15 a content scrambler to scramble the content using first and second keys to
16 produce scrambled content, the scrambler embedding the first key into the
17 scrambled content and passing the second key on a separate channel from the
18 scrambled content; and

19 a content descrambler to recover the first key from the scrambled content
20 and to receive the second key, the descrambler unscrambling the scrambled
21 content using the first and second keys to recover the content.

1 26. (Original) A scrambling architecture as recited in claim 25,
2 wherein the content scrambler and the content descrambler are implemented in
3 software.

4
5 27. (Original) A scrambling architecture as recited in claim 25,
6 wherein the content scrambler is implemented at the content provider, so that the
7 content is scrambled prior to distribution over the network to the client.

8
9 28. (Original) A scrambling architecture as recited in claim 25,
10 wherein the content scrambler is implemented at the client, so that the content is
11 scrambled at the client after distribution over the network from the content
12 provider.

13
14 29. (Original) A scrambling architecture as recited in claim 25,
15 wherein the content descrambler is implemented within an operating system at the
16 client.

17
18 30. (Original) A scrambling architecture as recited in claim 25,
19 wherein the content descrambler is implemented within a driver at the client.

20
21 31. (Original) A scrambling architecture as recited in claim 25,
22 wherein the content scrambler passes the second key to the content descrambler
23 over a cryptographically secured path.
24
25

1 32. (Original) A scrambling architecture as recited in claim 25,
2 wherein the content scrambler comprises:

3 a tone generator and modulator to create periodic sets of tone patterns and
4 to modulate amplitudes of the sets based on the first key;

5 a random number generator to create a random signal based on the first and
6 second keys; and

7 an adder to add the sets of tone patterns and the random signal to the
8 content to produce the scrambled content.

9
10 33. (Original) A scrambling architecture as recited in claim 32,
11 wherein the tone generator and modulator modulates the amplitudes in a way that
12 embeds the first key into the sets of tone patterns.

13
14 34. (Original) A scrambling architecture as recited in claim 32,
15 wherein the tone generator and modulator produces the tone patterns with one of
16 two amplitudes, wherein tone patterns with a first amplitude represent a first
17 binary value and tone patterns with a second amplitude represent a second binary
18 value, the first key being encoded into the sets of tone patterns as an aggregate of
19 the first and second binary values.

20
21 35. (Original) A scrambling architecture as recited in claim 32,
22 wherein the content descrambler comprises:

23 a tone detector and demodulator to detect the periodic sets of tone patterns
24 in the scrambled content and to demodulate the amplitudes of the sets to recover
25 the first key;

1 a random number generator to create a random signal based on the
2 recovered first key and the second key; and
3 a subtractor to subtract the tone patterns and the random signal from the
4 scrambled content to recover the content.

5 / 36. (Currently Amended) A client-server system for protecting
6 content, comprising:
7

8 a client;

9 a server to serve content to the client, the server having an encoder to
10 encrypt and compress the content to produce encoded content;

11 the client receiving the encoded content from the server and having a
12 decoder to decrypt and decompress the encoded content to recover the content;

13 the client having a scrambler to scramble the content after decryption and
14 decompression, the content remaining scrambled while processed by the client;
15 and

16 the client further having a descrambler to unscramble the content after
17 processing for subsequent playing

18 wherein the processing modifies the scrambled content.
19

20 37. (Original) A client-server system as recited in claim 36, wherein
21 the client is equipped with a media player to play the content, processing tools to
22 support the media player, and a driver; the scrambler being implemented as part of
23 the media player and the descrambler being implemented as part of the driver.
24
25

1 38. (Original) A client-server system as recited in claim 36, wherein
2 the client runs an operating system, and the content is scrambled while being
3 handled by the operating system.

4
5 39. (Currently Amended) A method for protecting content within a
6 computer device, comprising:

7 receiving encoded content;
8 decoding the encoded content to recover the content;
9 scrambling the content after the decoding;
10 processing the content while scrambled;
11 descrambling the content after the processing; and
12 playing the content,
13 wherein the processing modifies the scrambled content.

14
15 40. (Original) A method as recited in claim 39, wherein the
16 scrambling comprises adding noise to the content.

17
18 41. (Original) A method as recited in claim 39, wherein the
19 scrambling comprises XORing at least a subset of the content with a random
20 stream of bits.

21
22 42. (Original) A method as recited in claim 39, wherein the
23 scrambling comprises transforming the content using one of time-domain or
24 frequency-domain transforms.
25

43. (Original) A method as recited in claim 39, wherein the scrambling comprises:

adding sets of sync tones periodically to the content; and
adding a random signal to the content.

44. (Original) A method as recited in claim 43, wherein the descrambling comprises:

detecting the sets of sync tones in the content;
subtracting the sync tones from the content; and
subtracting the random signal from the content.

45. (Original) A method as recited in claim 39, wherein the scrambling comprises:

producing periodic sets of tone patterns having varying amplitudes based on a first key;
generating a random signal based on the first key and a second key; and
adding the tone patterns and the random signal to the content.

46. (Original) A method as recited in claim 45, wherein the descrambling comprises:

detecting the tone patterns in the content;
recovering the first key from the varying amplitudes of the tone patterns;
generating a random signal based on the recovered first key and the second key; and

1 subtracting the tone patterns and the random signal from the scrambled
2 content to restore the content.

3
4 47. (Original) A method as recited in claim 39, wherein the
5 processing comprises passing the content through a filter graph.

6
7 / 48. (Currently Amended) A computer-readable medium having
8 computer-executable instructions for performing ~~[[the]]~~ a method comprising: of
9 ~~claim 39,~~

10 receiving encoded content;

11 decoding the encoded content to recover the content;

12 scrambling the content after the decoding;

13 processing the content while scrambled;

14 descrambling the content after the processing; and

15 playing the content.

16 wherein the processing modifies the scrambled content.

17
18 / 49. (Currently Amended) A method for delivering content from a
19 server to a client over a network, comprising:

20 encoding the content at the server;

21 serving the content from the server to the client;

22 decoding the content at the client;

23 scrambling the content after the decoding;

24 processing the content while scrambled;

25 descrambling the content after the processing; and

1
2 56. (Original) A computer-readable medium as recited in claim 55
3 further having computer-executable instructions for:

4 detecting the tone patterns in the content;

5 recovering the first key from the varying amplitudes of the tone patterns;

6 generating a random signal based on the recovered first key and the second

7 key; and

8 subtracting the tone patterns and the random signal from the scrambled
9 content to restore the content.

10
11 57. (Currently Amended) A computer-readable medium having
12 computer-executable instructions for:

13 detecting periodic sets of tone patterns within scrambled content, the tone
14 patterns having varying amplitudes that were modulated based on a first key;

15 recovering the first key from the varying amplitudes of the tone patterns;

16 generating a random signal based on the recovered first key and the second
17 key, wherein the second key is provided on a separate channel from the first key;

18 and

19 subtracting the tone patterns and the random signal from the scrambled
20 content to produce unscrambled content.